HK 93

Semi Automatic Rifle

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HK 93

Semi-Automatic Rifle

Instruction Manual

Heckler & Koch, Inc.
U.S.A.

WARNING: READ ALL INSTRUCTIONS BEFORE HANDLING & USING THIS FIREARM.

Safety Rules

PLEASE READ THIS BEFORE HANDLING YOUR FIREARM.

The following safety rules are placed in this manual by Heckler & Koch, Inc. as an important reminder that firearms safety is your responsibility. Firearms can be dangerous and can potentially cause serious injury, damage to property or death, if handled improperly

1. Never point a firearm at anyone, or in any direction other than a safe one, i.e., downrange

2. Always treat all firearms as if they were loaded.

3. Keep your finger off the trigger until your sights are on the target.

4. Keep your finger off the trigger while loading or unloading the pistol.

5. Keep your finger off the trigger while pulling pistol out of the holster or holstering.

6. Be sure of your target and the back stop beyond.

7. Never give to or take a firearm from anyone unless the action is open.

8. Be sure that the ammunition you are using is factory loaded and is not damaged in anyway.

9. Before firing, remove the magazine from the weapon, lock the bolt to the rear and check the barrel of your unloaded firearm for any possible obstructions.

10. Before firing any firearm unfamiliar to you, make sure that you understand how it functions. Unfamiliarity can cause serious accidents. Attend a certified training course on any firearm which you intend to use or with which you are not sufficiently familiar.

11. Wear hearing protection and eye protection when shooting your firearm.

12. Keep your hands and fingers away from the muzzle to avoid injury or burns.

13. Firearms and ammunition should be stored separately beyond the reach of children and untrained or irresponsible adults.

14. Avoid the use of alcoholic beverages before and during any shooting.

REMEMBER: A FIREARM HAS THE CAPABILITY OF TAKING YOUR LIFE OR THE LIFE OF SOMEONE ELSE! BE CAREFUL WITH YOUR FIREARM – AN ACCIDENT IS ALMOST ALWAYS THE RESULTS OF NOT FOLLOWING BASIC SAFETY RULES.

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GENERAL

The HK 93 semi-automatic rifle, cal. .223 is a modern small arm produced in accordance with the most advanced manufacturing methods. It permits semi-automatic fire from all positions with the bolt closed.

The HK 93 is a recoil operated rifle with stationary barrel and delayed roller locked bolt system. The cartridges are fed either from a 5-round or from a 25-round magazine.

Existing models:

1. Rifle with fixed butt stock (Fig. 1)

2. Rifle with telescopic sight (Fig. 2)

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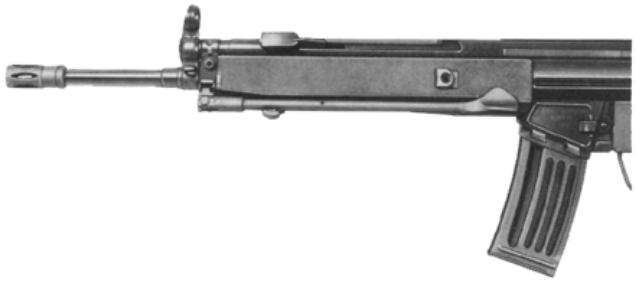


3. Rifle with bipod (Fig. 3 and 3a)

4. Rifle with retractable butt stock (Fig. 4 and 5)

ASSEMBLIES (Fig. 6)

1. Receiver and barrel, cocking mechanism and sights
2. Bolt assembly
3. Grip assembly and trigger mechanism
4. Buttstock
5. Handguard
6. Magazine
7. Accessories (page 9)

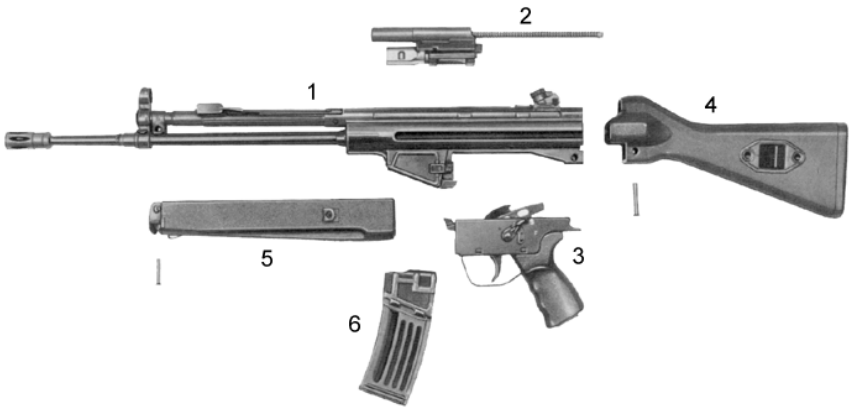


Fig. 6 Assemblies

TECHNICAL DATA

Caliber	.223
Range of sight	200, 300, 400 m and open “V” sight

Lengths

Weapon with fixed butt stock	37.00 in.	(940 mm)
Carbine when butt stock retracted	29.92 in.	(760 mm)
Sight radius	19.09 in.	(485 mm)
Barrel	16.14 in.	(410 mm)
Twist length	12.00 in.	(305 mm)

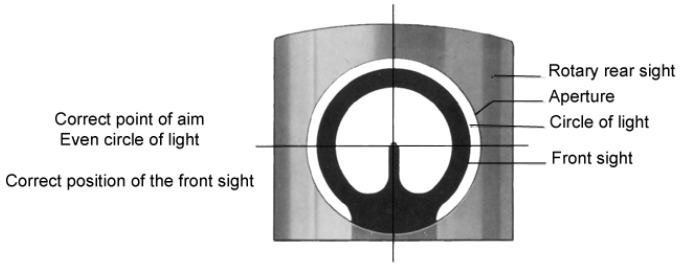
Weights

Weapon, without magazine	7.94 lbs.	(3.60 kg)
Carbine without magazine	8.60 lbs.	(3.90 kg)
Magazine for 25 rounds, empty	8.83 oz.	(250 g)
Magazine for 5 rounds, empty	2.12 oz.	(60 g)

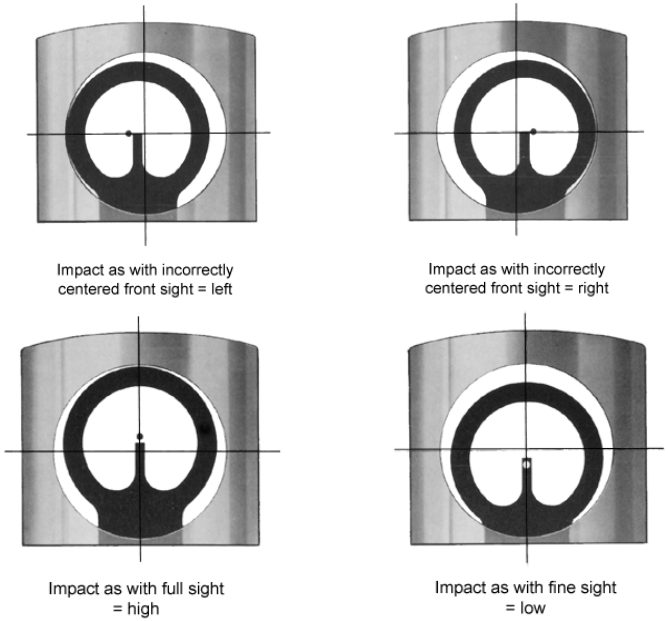
AIMING

- Before aiming, set the sights for the appropriate range and select the aiming point (target).
- Now aim at the target by means of the diopter hole and the front sight.
- make sure that the target appears to be resting on top of the front sight post and is properly centered and that there is an even circle of light between the inner circumference of the diopter hole and the outer circumference of the front sight holder.
- In this sight picture, the front sight is centered precisely in the diopter hole

- Correct point of aim! -



- Aiming errors by not having an even circle of light -


Impact as with incorrectly centered front sight = left
Impact as with incorrectly centered front sight = right
Impact as with full sight = high
Impact as with fine sight = low

DESCRIPTION OF THE ASSEMBLIES

Assembly 1 Receiver and barrel, cocking mechanism and sights

The receiver connects barrel, cocking mechanism and sights. In addition, all assemblies are either contained in the receiver or attached to it (Fig. 7).

The barrel is press-fitted into the barrel extension and fixed in place by means of pins. A flash hider is screwed onto the muzzle.
The cocking mechanism is located above the barrel and serves for cocking and loading the weapon and to secure the bolt is in its rearmost position.

The sights consist of the front sight and rotary rear sight. The rotary rear sight has 3 diopter holes and one open “V” sight and may be set for ranges of 200, 300, and 400 meters.

The rotary rear sight can be adjusted for elevation and windage.

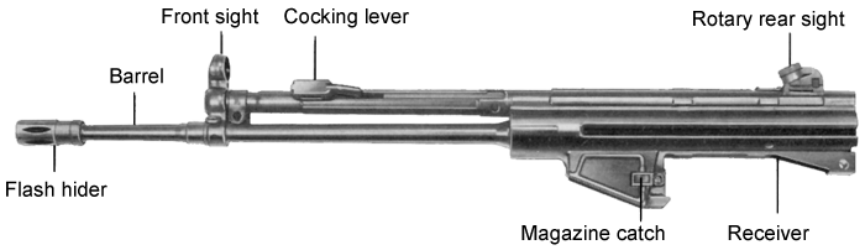


Fig. 7 Receiver with barrel, cocking mechanism and sights

Assembly 2 Bolt assembly

The bolt assembly consists of:

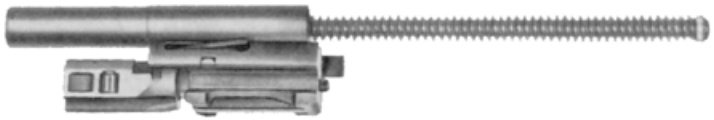


Fig. 8 Bolt assembly

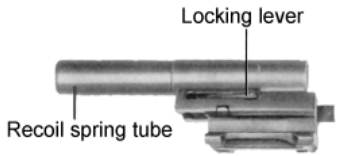


Fig. 9 Bolt head carrier

Fig. 10 Recoil spring guide rod and recoil spring

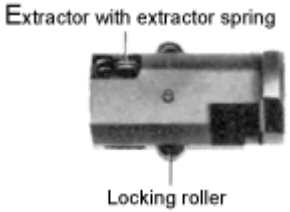


Fig. 11 Bolt head

Fig. 12 Locking piece

Fig. 13 Firing pin spring

Fig. 14. Firing pin

The bolt assembly is housed and guided in the receiver. In conjunction with the recoil spring the bolt feeds and fires the cartridge and also serves to extract and eject the case after firing and to cock the hammer.

Using the HK 93 Semi-automatic Rifle with Telescopic Sight

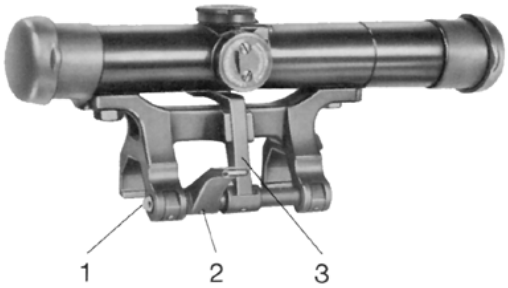


Fig. 53 Telescopic sight with mount

The telescopic sight is mounted as follows:

- Before attaching, swivel the claws (53/1) on the mount outward.
- Place mount on the rifle from above, keeping the mount tilted slightly to the right and rest its plastic nose against the sight cylinder.
- Note the inscription “direction of fire” and the arrow on the bottom of the mount.
- Press clamping lever (53/2) downward until the catch (53/3) engages audibly. Raise clamping lever as far as it will go.

Removing the telescopic sight

- To remove the telescopic sight with mount, push clamping lever downward.
- Press catch downward with thumb and raise clamping lever again.
- Tip telescopic sight with mount to the right and remove.

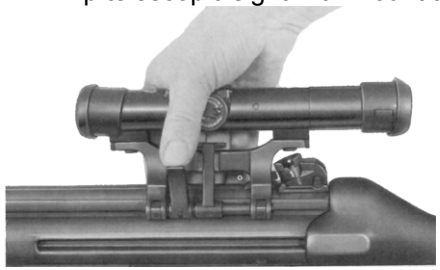


Fig. 54 Attaching the telescopic sight with mount

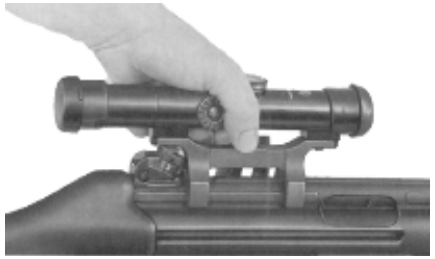


Fig. 55 Removing the telescopic sight with mount

Carrying and slinging modes, firing positions

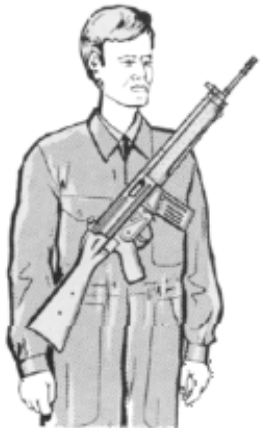


Fig. 47

Fig. 48

Fig. 49

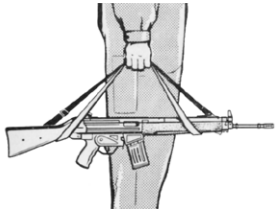


Fig. 50

Fig. 51

Fig. 52

Assembly 3 Grip assembly and trigger mechanism

The grip assembly (Fig. 15) is hinged to the receiver, can be swung down and removed from it. It houses the trigger mechanism (Fig. 16) with hammer, ejector and the safety. The safety axle connects the trigger housing to the grip.

Fig. 15 Grip with trigger housing

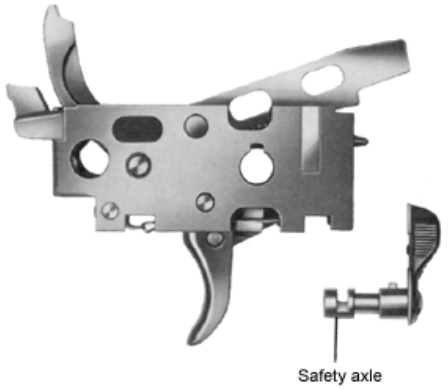


Fig. 16 Trigger mechanism and safety

Assembly 4 Buttstock

Fixed buttstock (Fig. 17)
The back plate closes the receiver at the rear. It is connected to the receiver by a locking pin and houses the recoil spring, the buffer assembly and the buttstock. The sling holder is attached to the butt stock by two tubular rivets which serve to hold the butt plate and to store the locking pin when stripping the rifle.

Fig. 17 Fixed butt stock

Retractable butt stock (Fig. 18)
When using the rifle as carbine, the fixed buttstock can be replaced by a retractable one. The two guide rails on either side of the butt stock are guided in grooves on the receiver. They are arrested by a spring-loaded gripping lever in retracted and extended position. A support for fastening the sling is fitted to the back plate.

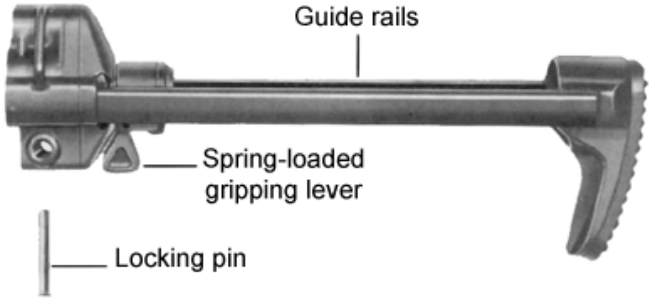


Fig. 18 Retractable buttstock

USING THE COMBAT SLING

The combat sling is attached to the front of the rifle by fixing its carbine hook in the eye on the front sight holder; at the rear, its loop and spring hook are attached to the buttstock.

When used as a normal carrying sling, the double loop hangs from the carbine hook. To convert the sling to the “ready” carrying mode (Fig. 47) pull the double loop over the carbine hook (Fig. 45) and attach it to the handguard, depending upon how the sling is worn.

Set the combat sling to the proper length for the individual shooter by readjusting the sliding buckle. The correct sling length can be checked by assuming the desired firing position.

When slinging the rifle (Fig. 35), one half of the sling (1) should extend over the shooter’s back, with the other half (2) resting across his chest.

Fig. 45 Pulling the double loop over the carbine hook

Fig. 46 How to wear the combat sling

Windage adjustment

- Point of impact left: Loosen clamping screw (Fig. 43) on top of sight base. Turn adjusting screw (Fig. 44) counter-clockwise according to requirement. Then retighten clamping screw.
- Point of impact right: Loosen clamping screw (Fig. 43) on top of sight base. Turn adjusting screw (Fig. 44) clockwise according to requirement. Then retighten clamping screw.

Note: Each revolution of the adjusting screw moves the mean point of impact 6.14 in. (15.6 cm) to either side at a range of 100 meters (109 yds.).

Fig. 43 Loosening of clamping screw

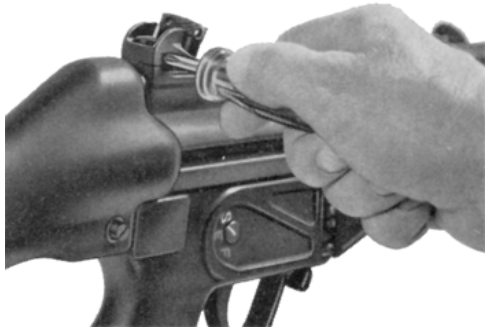


Fig. 44 Turning the adjusting screw

Assembly 5 Handguard

The detachable handguard (Fig. 19) encircles the barrel from below, and it is fastened to the weapon by a locking pin.
The hook on the handguard serves to receive the double loop when the combat sling is used.

Fig. 19 handguard

Assembly 6 Magazine

The cartridges are fed either from a 5-round magazine (Fig. 20) or from a 25-round magazine (Fig. 21).

It consists of:

Fig. 20 5-round magazine

Fig. 21 Magazine housing with magazine floor plate

Fig. 22 Follower with follower spring

ACCESSORIES

Standard carrying sling
The standard carrying sling (Fig. 23) is attached to the front of the rifle by snapping its carbine hook into the eye on the front sight holder; at the rear, its loop and spring hook are passed through a fitting in the buttstock.

Fig. 23 Standard carrying sling

Combat sling
The combat sling (Fig. 24) serves to carry the rifle in different modes and enables its user to fire immediately from all firing position (see pages 46-49).

Fig. 24 Combat sling

ADJUSTING THE ROTARY REAR SIGHT

Any corrections which may be necessary when sighting-in, are only performed by adjusting the rear sight for elevation or windage.

Elevation adjustment:
- Insert elevation adjustment tool into the rear sight cylinder (Fig. 42) so that the wedges of the tool engage in the two splines in the cylinder which contain the catch bolts. Press Phillips-head screwdriver downward into the adjustment tool and hold fast. Turn rear sight cylinder manually in the desired direction (turning clockwise lowers, turning counter-clockwise raises the point of impact 1.6 in (4 cm) per click at a range of 109 yds. (100 m).
- After correction remove screwdriver and elevation adjustment tool.
- The catch bolts will then re-engage in the splines.
- After performing the **elevation adjustment**, set rear sight cylinder at the desired range.

Fig. 42 Elevation adjustment

REASSEMBLING THE RIFLE

- Attach handguard.
- Insert the assembled bolt with recoil spring into the receiver (locking rollers must rest inside the bolt head.)
- Attach grip assembly. (Fig. 40)
- (Set safety lever on grip assembly at “S”).
- Slide fixed or retractable buttstock onto the receiver and insert locking pins.
- Hook carrying sling into the eye on the front sight holder.
- Check the proper reassembly of the rifle by performing several cocking motions.

Gap between bolt head and bolt head carrier
With the bolt in its closed position – the magazine being detached – the bottom side of the bolt is visible through the magazine attachment unit. There must be a very narrow gap between the bolt head and the bolt head carrier. If this gap has disappeared, we ask you to have the weapon checked with your local gun dealer as this technical condition would cause excessive strong recoil forces. Fig. 41)

Failure to function
On principle operate the cocking lever and continue firing. Should the rifle fail to fire, put at safe, remove the magazine, unload the rifle and determine the cause of the malfunction.

Fig. 40 Reassembling the rifle

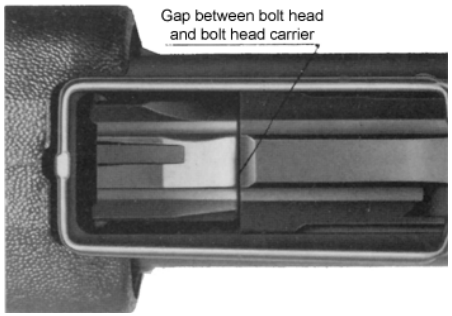


Fig. 41 Head space

Telescopic sight
The telescopic sight (Fig. 25) is fixed to its mount by two screws. The receiver of the rifle is so designed that a telescopic sight can be attached to it **without any special arrangements** (see pages 50-52).

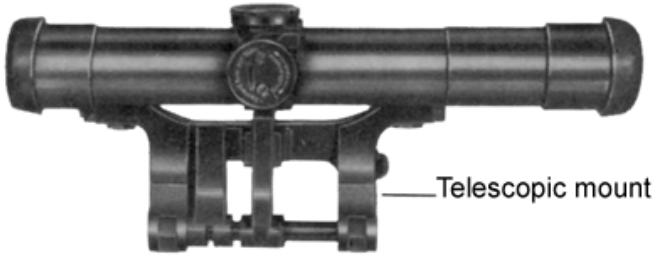


Fig. 25 Telescopic sight

Bipod
The bipod (Fig. 26) serves to support the front part of the rifle. It is fitted into the handguard guideway by pressing-in the leaf spring. The bipod legs can be folded up against the rifle by operating the catch lever.

Fig. 26 Bipod

HANDLING AND OPERATION

Filling of magazine
One hand holds the magazine (Fig. 27), the other hand puts the cartridge on the magazine lip and presses it under the lip with the thumb.

Emptying of magazine
One hand holds the magazine. The points of the cartridges point to the front. The second cartridge is pressed down with a small piece of wood or a cartridge, whereby the top cartridge falls out by itself.

Note: For both operations a magazine filling and emptying device is also available.

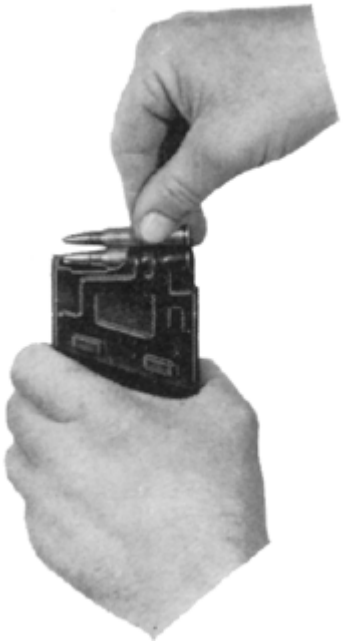


Fig. 27 Filling of magazine

Caution
Safety requires that both locking rollers be in place in the bolt head when assembling the weapon.
See Fig. 34.

Stripping the grip assembly with trigger mechanism

- Set the safety lever to point vertically upwards, and then pull the lever out.
- Remove the grip assembly. If the trigger housing is extremely fouled, it can be washed out in a cleaning solvent.

Fig. 38 Stripping the bolt assembly

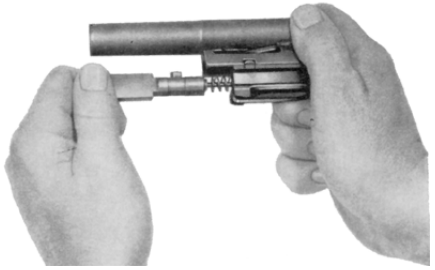


Fig. 39 Extracting the locking piece, firing pin and firing pin spring

STRIPPING THE RIFLE FOR CLEANING

- Engage the safety!
- Remove magazine.
- Unload chamber; retract cocking lever and make sure that the chamber is clear. Let cocking lever snap forward.
- Unhook carrying sling from front sight holder.
- Remove buttstock locking pin and put it in the tubular rivets in the fixed buttstock.
- Slide off buttstock and back plate (Fig. 35). Remove grip assembly. Retract bolt assembly by means of the cocking lever and remove it from the receiver (Fig. 37).
- Remove handguard.

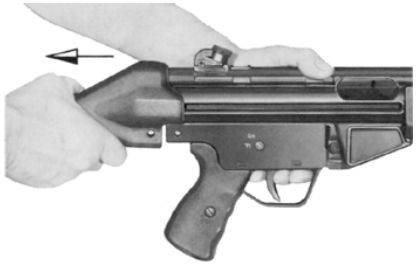


Fig. 36 Removing the buttstock

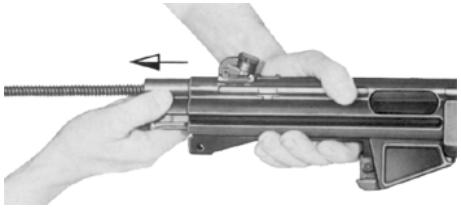


Fig. 37 Removing the bolt assembly

Stripping the bolt assembly

- Remove recoil spring from recoil spring rod by edging it off, in the rearmost position.
- Remove the bolt head from the bolt assembly by turning it 90 degrees to the right. Turn locking piece until lug is clear and can be withdrawn from the bolt head carrier (Fig. 38).
- Remove firing pin with its spring (Fig. 39).

Reassembling of bolt is done by reversing the disassembly procedure.

- Push bolt head with its slanted surface under the nose of the locking lever holding a distance of about 5 mm to the bolt head carrier and turn to the left until the slide-surfaces of the bolt head and the bolt head carrier are at the same level.
- Press recoil spring into recoil spring guide rod.

SAFETY FEATURES

The safety lever is located on the left side of the grip assembly and can be set at:

"S" = Safe and "F" = Fire (Fig. 28 and 29).

The position selected is indicated also on the right side of the grip assembly.

How to put at safe

Set safety lever at "S". The trigger cannot be squeezed. however, the rifle can be loaded while in "safe" position.

Firing

Fire: Set safety lever at "F".

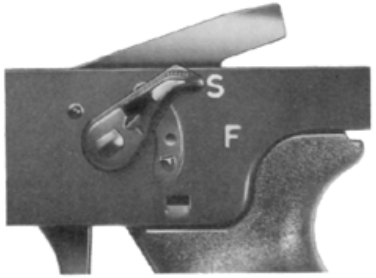


Fig. 28 Safe

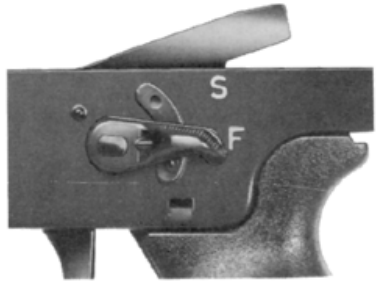


Fig. 29 Fire

Inserting and removing of magazine

Put at “safe”!

Insert magazine into the magazine well (Fig. 30) until the magazine catch engages audibly.
To remove the magazine, push the magazine catch on the right side of the weapon (Fig.. 31).

Fig. 30 Inserting the magazine

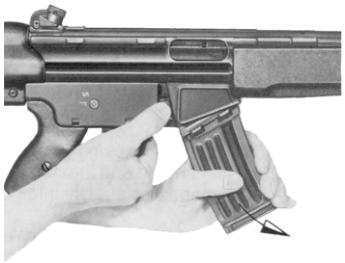


Fig. 31 Removing the magazine

Loading of rifle

Put at “safe”!

Pull cocking lever rearward with the left hand, engaging it in the recess of the cocking lever housing (Fig. 32).
Insert the filled magazine into the magazine well so that the magazine catch locks magazine audibly into position.

Allow cocking lever to snap forward (Fig. 33).
The rifle is loaded and in “safe” position.

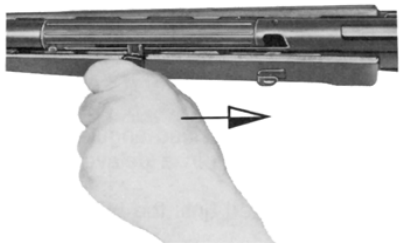


Fig. 32 Retracting the cocking lever

Fig. 33 Releasing the cocking lever

FUNCTIONING OF PARTS

The rifle is loaded and the safety set on “F”.
By pulling the trigger, the hammer is released and strikes the firing pin which in turn ignites the cartridge. The powder gases drive the bullet out of the barrel. Simultaneously these gases also exert pressure on the cartridge case. This causes forces to act on the bolt head face; a portion of these forces is transmitted to the receiver and a portion to the bolt head carrier via the locking piece. The balanced angular ratio of the locking piece and barrel extension results in a delayed recoil movement of the bolt head.
This guarantees that the bolt keeps the barrel locked until the bullet has left the muzzle (Fig. 34)

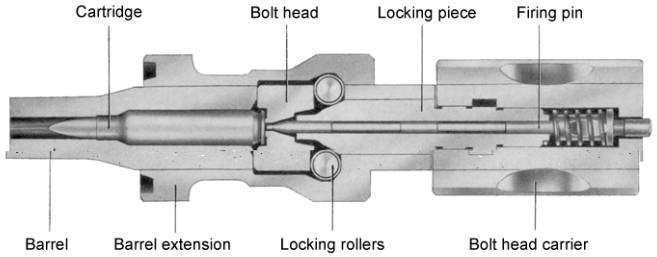


Fig. 34 Bolt in locked position

After the locking rollers have been fully cammed into the bolt head, the bolt can continue its recoil movement. In the course of this movement, the empty cartridge case is ejected and the hammer recocked.
At the same time, the recoil spring is compressed, which returns the bolt to its forward position. During the course of this process, a new round is chambered from the magazine. The extractor engages in the extracting groove in the cartridge case.
As a result of the beveled surfaces of the locking piece, the locking rollers are cammed against the supporting surfaces in the barrel extension (Fig. 35). The weapon is now ready to fire again.

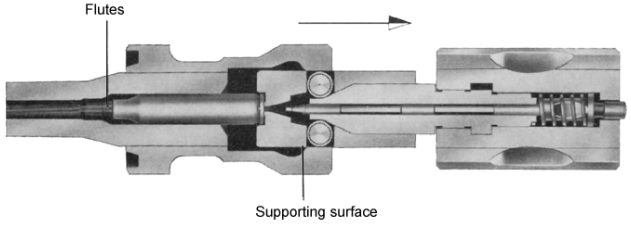


Fig. 35 Bolt in unlocked position